

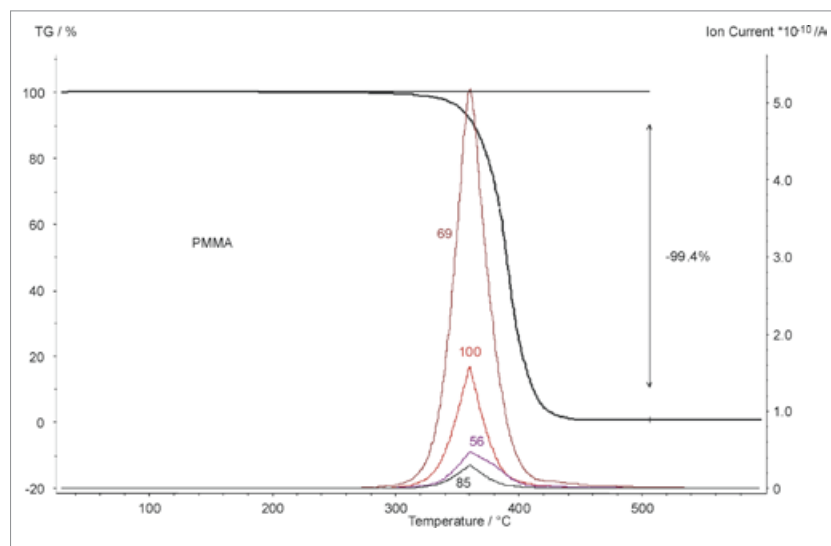
# APPLICATION SHEET

## POLYMERS – POLYMER MANUFACTURING

# PMMA (POLYMETHYLMETHACRYLATE)

Polymethyl methacrylate (PMMA) or poly(methyl 2-methylpropenoate) is the polymer of methyl methacrylate. This thermoplastic is transparent and is sold under the trade names Plexiglas, Perspex, Acrylite, Acryplast, and Lucite; it

is commonly called acrylic glass or simply acrylic. The material is often used as an alternative to glass. PMMA is lighter than glass, does not shatter and can easily be formed by heating to 100°C.



### Instrument

TG 209 **F1 Iris**<sup>®</sup> – QMS 403 **Aeolos**<sup>®</sup>

### Test Conditions

Temperature range	RT ... 600°C
Heating/cooling rates	20 K/min
Atmosphere	Nitrogen at 40 ml/min
Sample mass	7.1 mg
Crucible	Alumina
Sensor	Platinel

### Results

PMMA totally reacts to CO<sub>2</sub> and H<sub>2</sub>O when heated in an air atmosphere. During the pyrolysis (heating inert gas atmosphere), the monomer (100 amu) and its fragments can be detected. This can easily be seen in the figure above.